We claim:

1. A peptide having an amino acid sequence selected from the group consisting of:

(a) HHARL;
(b) HARL;
(c) HARLI;
(d) HARLIL;
(e) HHARLCL;
(f) ARLIL;
(g) HHARLIF;
(h) THARLIL;
(i) ARLI;
(j) ARL;
(k) HARLCL;
(l) ARLCL;
(m) ARCL;
(n) MFARLIL;
(o) FARLIL;
(p) FARLI;
(q) FARL;
(r) HARLIF;
(s) ARLIF; and homologs thereof.

2. A composition comprising one or more peptides according to claim 1 and a carrier therefor.

3. A peptide having an amino acid sequence selected from the group consisting of:

(a) LHARLCLANFCGRNRV;
(b) LARLCLANFCGNNNV;
(c) CARYRTGHHARLM;

(d) HHARLPLANFCG;

(e) RTGHHARLC*LANFC;

(f) CESARYRTGHHARLC*;

(g) DNTHHARLIL;

(h) SHHARLIL; and homologs thereof.

4. A composition comprising one or more peptides according to claim 3 and a carrier therefor.

5. A peptide having the amino acid sequence A R L I, and comprising at least one and up to 25 additional amino acids flanking either the 3' or 5' end of the peptide.

6. A peptide having the amino acid sequence H A R L, and comprising at least one and up to 25 additional amino acids flanking either the 3' or 5' end of the peptide.

7. A peptide having the amino acid sequence F A R L, and comprising at least one and up to 25 additional amino acids flanking either the 3' or 5' end of the peptide.

8. A peptide having the amino acid sequence A R L, and comprising at least one and up to 25 additional amino acids flanking either the 3' or 5' end of the peptide.

9. A peptide having the amino acid sequence A R L C, and comprising at least one and up to 25 additional amino acids flanking either the 3' or 5' end of the peptide.

10. A polymer of a "Harlil" peptide sequence comprising at least two repetitions of the peptide. SeqID NO: 2 residues 46-51

11. A nucleic acid encoding an amino acid sequence selected from the group consisting of:

(a) HHARL;

(b) H A R L;
(c) H A R L I;
(d) H A R L I L;
(e) H H A R L C L;
(f) A R L I L;
(g) H H A R L I F;
(h) T H A R L I L;
(i) A R L I;
(j) A R L;
(k) H A R L C L;
(l) A R L C L;
(m) A R C L;
(n) M F A R L I L;
(o) F A R L I L;
(p) F A R L I;
(q) F A R L;
(r) H A R L I F;
(s) A R L I F; and homologs of such amino acid sequences.

12. A composition comprising one or more nucleic acids according to claim 11 and a pharmaceutically acceptable carrier therefor.

13. A nucleic acid encoding an amino acid sequence selected from the group consisting of::

(a) L H A R L C L A N F C G R N R V;
(b) L A R L C L A N F C G N N N V;
(c) C A R Y R T G H H A R L M;
(d) H H A R L P L A N F C G;
(e) R T G H H A R L C*L A N F C;
(f) C E S A R Y R T G H H A R L C *;
(g) D N T H H A R L I L;

(h) S H H A R L I L; and homologs thereof.

14. A composition comprising one or more nucleic acids according to claim 13 and a carrier therefor.

15. A nucleic acid encoding the amino acid sequence A R L I, and comprising residues encoding at least one and up to 25 additional amino acids flanking either the 3' or 5' end of the peptide.

16. A nucleic acid encoding the amino acid sequence H A R L and comprising residues encoding at least one and up to 25 additional amino acids flanking either the 3' or 5' end of the peptide.

17. A nucleic acid encoding the amino acid sequence F A R Land comprising residues encoding at least one and up to 25 additional amino acids flanking either the 3' or 5' end of the peptide.

18. A nucleic acid encoding the amino acid sequence A R Land comprising residues encoding at least one and up to 25 additional amino acids flanking either the 3' or 5' end of the peptide.

19. A nucleic acid encoding the amino acid sequence A R L C, and comprising residues encoding at least one and up to 25 additional amino acids flanking either the 3' or 5' end of the peptide.

20. An antibody which specifically recognizes a peptide sequence having an amino acid sequence selected from the group consisting of:

(a) H H A R L;
(b) H A R L;
(c) H A R L I;
(d) H A R L I L;
(e) H H A R L C L;
(f) A R L I L;
(g) H H A R L I F;

(h) T H A R L I L;

(i) A R L I;

(j) A R L;

(k) H A R L C L;

(l) A R L C L;

(m) A R C L;

(n) M F A R L I L;

(o) F A R L I L;

(p) F A R L I;

(q) F A R L;

(r) H A R L I F;

(s) A R L I F; and homologs thereof.

21. An antibody which specifically recognizes a peptide sequence having an amino acid sequence selected from the group consisting of:

(a) L H A R L C L A N F C G R N R V;

(b) L A R L C L A N F C G N N N V;

(c) C A R Y R T G H H A R L M;

(d) H H A R L P L A N F C G;

(e) R T G H H A R L C*L A N F C;

(f) C E S A R Y R T G H H A R L C *;

(g) D N T H H A R L I L;

(h) S H H A R L I L; and homologs thereof.

22. An antibody which specifically recognizes a peptide sequence having an amino acid sequence selected from the group consisting of:

(a) A R L I;

(b) H A R L;

(c) F A R L;

(d) A R L; and

(e) A R L C,

wherein the peptide comprises at least one and up to 25 additional amino acids flanking either the 3' or 5' end of the peptide.

23. A mimetic of a peptide having an amino acid sequence selected from the group consisting of:

(a) HHARL;
(b) HARL;
(c) HARLI;
(d) HARLIL;
(e) HHARLCL;
(f) ARLIL;
(g) HHARLIF;
(h) THARLIL;
(i) ARLI;
(j) ARL;
(k) HARLCL;
(l) ARLCL;
(m) ARCL;
(n) MFARLIL;
(o) FARLIL;
(p) FARLI;
(q) FARL;
(r) HARLIF;
(s) ARLIF; and homologs of such amino acid sequences.

24. A mimetic of a peptide having an amino acid sequence selected from the group consisting of:

(a) LHARLCLANFCGRNRV;
(b) LARLCLANFCGNNNV;
(c) CARYRTGHHARLM;
(d) HHARLPLANFCG;

(e) R T G H H A R L C*L A N F C;

(f) C E S A R Y R T G H H A R L C *;

(g) D N T H H A R L I L;

(h) S H H A R L I L; and homologs thereof.

25. A mimetic of a peptide having an amino acid sequence selected from the group consisting of:

(a) A R L I;

(b) H A R I;

(c) F A R L;

(d) A R L, and

(e) A R L C;

wherein the NTP peptide comprises at least one and up to 25 additional amino acids flanking either the 3' or 5' end of the peptide.

26. A method for purifying NTP from a biological sample comprising:

(1) contacting a biological sample with one or more peptides having an amino acid sequence selected from the group consisting of:

(a) H H A R L;

(b) H A R L;

(c) H A R L I;

(d) H A R L I L;

(e) H H A R L C L;

(f) A R L I L;

(g) H H A R L I F;

(h) T H A R L I L;

(i) A R L I;

(j) A R L;

(k) H A R L C L;

(l) A R L C L;

(m) A R C L;

(n) M F A R L I L;

(o) F A R L I L;

(p) F A R L I;

(q) F A R L;

(r) H A R L I F;

(s) A R L I F; and homologs of such amino acid sequences;

(2) isolating the resulting Harlil peptide/NTP conjugates; and

(3) separating NTP from the one or more Harlil peptides to obtain purified NTP.

27. A method for purifying NTP from a biological sample comprising:

(1) contacting a biological sample with one or more peptides having an amino acid sequence selected from the group consisting of:

(a) L H A R L C L A N F C G R N R V;

(b) L A R L C L A N F C G N N N V;

(c) C A R Y R T G H H A R L M;

(d) H H A R L P L A N F C G;

(e) R T G H H A R L C*L A N F C;

(f) C E S A R Y R T G H H A R L C *;

(g) D N T H H A R L I L;

(h) S H H A R L I L; and homologs thereof;

(2) isolating the resulting Harlil peptide/NTP conjugates; and

(3) separating NTP from the one or more Harlil peptides to obtain purified NTP.

28. A method for purifying NTP from a biological sample comprising:

(a) contacting a biological sample with one or more peptides having an amino acid sequence selected from the group consisting of:

(i) A R L I;

(ii) H A R L;

(iii) F A R L;

(iv) A R L; and

(v) A R L C;

wherein the peptide comprises at least one and up to 25 additional amino acids flanking either the 3' or 5' end of the peptide;

(b) isolating the resulting Harlil peptide/NTP conjugates; and

(c) separating NTP from the one or more Harlil peptides to obtain purified NTP.

29. A diagnostic test for determining the presence of Alzheimer's Disease or other neurodegenerative disorder comprising:

(1) contacting a biological sample with one or more peptides having an amino acid sequence selected from the group consisting of:

(a) H H A R L;

(b) H A R L;

(c) H A R L I;

(d) H A R L I L;

(e) H H A R L C L;

(f) A R L I L;

(g) H H A R L I F;

(h) T H A R L I L;

(i) A R L I;

(j) A R L;

(k) H A R L C L;

(l) A R L C L;

(m) A R C L;

(n) M F A R L I L;

(o) F A R L I L;

(p) F A R L I;

(q) F A R L;

(r) H A R L I F;

(s) A R L I F; and homologs of such amino acid sequences;

(2) determining the amount of NTP present in the sample; and

(3) determining whether the amount of NTP present in the sample is above a threshold amount indicative of the presence of Alzheimer's Disease or other neurodegenerative disorder.

30. A diagnostic test for determining the presence of Alzheimer's Disease or other neurodegenerative disorder comprising:

(1) contacting a biological sample with one or more peptides having an amino acid sequence selected from the group consisting of:

(a) L H A R L C L A N F C G R N R V;

(b) L A R L C L A N F C G N N N V;

(c) C A R Y R T G H H A R L M;

(d) H H A R L P L A N F C G;

(e) R T G H H A R L C*L A N F C;

(f) C E S A R Y R T G H H A R L C *;

(g) D N T H H A R L I L;

(h) S H H A R L I L; and homologs thereof;

(2) determining the amount of NTP present in the sample; and

(3) determining whether the amount of NTP present in the sample is above a threshold amount indicative of the presence of Alzheimer's Disease or other neurodegenerative disorder.

31. A diagnostic test for determining the presence of Alzheimer's Disease or other neurodegenerative disorder comprising:

(a) contacting a biological sample with one or more peptides having an amino acid sequence selected from the group consisting of:

(i) A R L I;

(ii) H A R L;

(iii) F A R L;

(iv) A R L; and

(v) A R L C;

wherein the peptide comprises at least one and up to 25 additional amino acids flanking either the 3' or 5' end of the peptide;

(b) determining the amount of NTP present in the sample; and

(c) determining whether the amount of NTP present in the sample is above a threshold amount indicative of the presence of Alzheimer's Disease or other neurodegenerative disorder.

32. A diagnostic kit for determining the presence of Alzheimer's Disease or other neurodegenerative disorder comprising:

(1) one or more peptides having an amino acid sequence selected from the group consisting of:

(a) H H A R L;

(b) H A R L;

(c) H A R L I;

(d) H A R L I L;

(e) H H A R L C L;

(f) A R L I L;

(g) H H A R L I F;

(h) T H A R L I L;

(i) A R L I;

(j) A R L;

(k) H A R L C L;

(l) A R L C L;

(m) A R C L;

(n) M F A R L I L;

(o) F A R L I L;

(p) F A R L I;

(q) F A R L;

(r) H A R L I F;

(s) A R L I F; and homologs of such amino acid sequences; and

(2) suitable reagents.

33. A diagnostic kit for determining the presence of Alzheimer's Disease or other neurodegenerative disorder comprising:

(1) one or more peptides having an amino acid sequence selected from the group consisting of:

(a) L H A R L C L A N F C G R N R V;

(b) L A R L C L A N F C G N N N V;

(c) C A R Y R T G H H A R L M;

(d) H H A R L P L A N F C G;

(e) R T G H H A R L C*L A N F C;

(f) C E S A R Y R T G H H A R L C *;

(g) D N T H H A R L I L;

(h) S H H A R L I L; and homologs thereof; and

(2) suitable reagents.

34. A diagnostic kit for determining the presence of Alzheimer's Disease or other neurodegenerative disorder comprising:

(a) one or more peptides having an amino acid sequence selected from the group consisting of:

(i) A R L I;

(ii) H A R L;

(iii) F A R L;

(iv) H A R L I;

(v) A R L C;

wherein the peptide comprises at least one and up to 25 additional amino acids flanking either the 3' or 5' end of the peptide; and

(b) suitable reagents.

35. A method of using a peptide as an analogue for NTP in a therapeutic or diagnostic assay, comprising replacing NTP with the peptide in such an assay, wherein the peptide has an amino acid sequence selected from the group consisting of:

(a) H H A R L;

(b) H A R L;

(c) H A R L I;

(d) H A R L I L;

(e) HHARLCL;
(f) ARLIL;
(g) HHARLIF;
(h) THARLIL;
(i) ARLI;
(j) ARL;
(k) HARLCL;
(l) ARLCL;
(m) ARCL;
(n) MFARLIL;
(o) FARLIL;
(p) FARLI;
(q) FARL;
(r) HARLIF;
(s) ARLIF; and homologs of such amino acid sequences.

36. A method of using a peptide as an analogue for NTP in a therapeutic or diagnostic assay, comprising replacing NTP with the peptide in such an assay, wherein the peptide has an amino acid sequence selected from the group consisting of:

(a) LHARLCLANFCGRNRV;
(b) LARLCLANFCGNNNV;
(c) CARYRTGHHARLM;
(d) HHARLPLANFCG;
(e) RTGHHARLC*LANFC;
(f) CESARYRTGHHARLC*;
(g) DNTHHARLIL;
(h) SHHARLIL; and homologs thereof.

37. A method of using a peptide as an analogue for NTP in a therapeutic or diagnostic assay, comprising replacing NTP with the peptide in such an assay, wherein the peptide has an amino acid sequence selected from the group consisting of:

(a) A R L I;
(b) H A R L;
(c) F A R L;
(d) A R L, and
(e) A R L C;

wherein the peptide comprises at least one and up to 25 additional amino acids flanking either the 3' or 5' end of the peptide.

38. A method of using a peptide as a trap material in a diagnostic or therapeutic assay, wherein the peptide has an amino acid sequence selected from the group consisting of:

(a) H H A R L;
(b) H A R L;
(c) H A R L I;
(d) H A R L I L;
(e) H H A R L C L;
(f) A R L I L;
(g) H H A R L I F;
(h) T H A R L I L;
(i) A R L I;
(j) A R L;
(k) H A R L C L;
(l) A R L C L;
(m) A R C L;
(n) M F A R L I L;
(o) F A R L I L;
(p) F A R L I;
(q) F A R L;
(r) H A R L I F;
(s) A R L I F; and homologs of such amino acid sequences.

39. A method of using a peptide as a trap material in a diagnostic or therapeutic assay, wherein the peptide has an amino acid sequence selected from the group consisting of:

(a) L H A R L C L A N F C G R N R V;

(b) L A R L C L A N F C G N N N V;

(c) C A R Y R T G H H A R L M;

(d) H H A R L P L A N F C G;

(e) R T G H H A R L C*L A N F C;

(f) C E S A R Y R T G H H A R L C *;

(g) D N T H H A R L I L;

(h) S H H A R L I L; and homologs thereof.

40. A method of using a peptide as a trap material in a diagnostic or therapeutic assay, wherein the peptide has an amino acid sequence selected from the group consisting of:

(a) A R L I;

(b) H A R L;

(c) F A R L;

(d) A R L, and

(e) A R L C;

wherein the peptide comprises at least one and up to 25 additional amino acids flanking either the 3' or 5' end of the peptide.

41. A method of isolating immunoglobulins from a sample using a peptide comprising:

(1) contacting a sample comprising immunoglobulins with at least two peptides to allow for immunoglobulin/ peptide interaction; and

(2) isolating the resulting peptide/immunoglobulin conjugates, wherein the peptide has an amino acid sequence selected from the group consisting of:

(a) H H A R L;

(b) H A R L;

(c) H A R L I;

(d) HARLIL;
(e) HHARLCL;
(f) ARLIL;
(g) HHARLIF;
(h) THARLIL;
(i) ARLI;
(j) ARL;
(k) HARLCL;
(l) ARLCL;
(m) ARCL;
(n) MFARLIL;
(o) FARLIL;
(p) FARLI;
(q) FARL;
(r) HARLIF;
(s) ARLIF; and homologs of such amino acid sequences.

42. The method of claim 41, wherein the NTP peptide/immunoglobulin conjugates are isolated by precipitation.

43. The method of claim 41, wherein the NTP peptide/immunoglobulin conjugates are isolated on an affinity column.

44. The method of to claim 41, wherein the immunoglobulins are subsequently purified.

45. A method of isolating immunoglobulins from a sample using a peptide comprising:

(1) contacting a sample comprising immunoglobulins with at least two peptides to allow for immunoglobulin/peptide interaction; and

(2) isolating the resulting peptide/immunoglobulin conjugates, wherein the peptide has an amino acid sequence selected from the group consisting of:

(a) LHARLCLANFCGRNRV;
(b) LARLCLANFCGNNNV;
(c) CARYRTGHHARLM;
(d) HHARLPLANFCG;
(e) RTGHHARLC*LANFC;
(f) CESARYRTGHHARLC*;
(g) DNTHHARLIL;
(h) SHHARLIL; and homologs thereof.

46. The method of claim 45, wherein the peptide/immunoglobulin conjugates are isolated by precipitation.

47. The method of claim 45, wherein the peptide/immunoglobulin conjugates are isolated on an affinity column.

48. The method of to claim 45, wherein the immunoglobulins are subsequently purified.

49. A method of isolating immunoglobulins from a sample using a peptide comprising:

(a) contacting a sample comprising immunoglobulins with at least two peptides to allow for immunoglobulin/ peptide interaction; and

(b) isolating the resulting peptide/immunoglobulin conjugates, wherein the peptide has an amino acid sequence selected from the group consisting of:

(a) ARLI;
(b) HARL;
(c) FARL;
(d) ARL ; and
(e) ARLC;

wherein the peptide comprises at least one and up to 25 additional amino acids flanking either the 3' or 5' end of the peptide.

50. The method of claim 49, wherein the peptide/immunoglobulin conjugates are isolated by precipitation.

51. The method of claim 49, wherein the peptide/immunoglobulin conjugates are isolated on an affinity column.

52. The method according to claim 49, wherein the immunoglobulins are subsequently purified.

53. A method for preventing NTP interacting through the Harlil domains comprising blocking one or more Harlil domains by use of one or more Harlil peptides, Harlil peptide mimetics, antibodies to such a domain, or a combination thereof.